

REMARKS

1. Drawings

The Office Action objects to the drawings as being informal. Formalized substitute drawings are being filed concurrently herewith, thereby obviating the objection.

2. Claims

Claims 1 – 12 have been examined. Claims 1 – 3 and 5 – 10 stand rejected under 35 U.S.C. §102(b) as anticipated by or under 35 U.S.C. §103(a) as obvious over U.S. Pat. No. 5,775,371 (“Pan”), or alternatively rejected under 35 U.S.C. §103(a) as unpatentable over Pan in view of U.S. Pat. No. 6,102,068 (“Higdon”); and Claims 4, 11, and 12 have been identified as allowable except for their dependence from a rejected base claim.¹

Independent Claim 1 has been amended to recite that the first deflectable membrane is integral with the first layer or with the second layer, as illustrated in Figs. 21 – 21B of the application and described at, *e.g.*, p. 33, l. 20 – p. 34, l. 18 and p. 10, l. 28 – p. 11, l. 2. It is noted that the Application includes detailed descriptions of microfabrication techniques that enable the fabrication of structures having integral deflectable membranes. *See* Application, p. 8, l. 20 – p. 12, l. 32. The structure shown in Pan does not include an integral deflectable membrane and instead teaches the use of a separate “flexible member 52 which moves within ... spaces formed in [a] block 50” (Pan, Col. 6, ll. 5 – 7). Furthermore, Pan does not disclose any technique by which its structure could be fabricated to include an integral deflectable membrane as now recited.

¹ The Office Action indicates that Claims 4, 11, and 12 also require rewriting to overcome a rejection under 35 U.S.C. §112. This reference to a §112 rejection is understood to refer to the assertion in the Office Action that “the term ‘microfluidic’ is see[n] as having an indefinite size” since no other §112 rejection is made. For the reasons expressed in the main text, it is respectfully believed that the term “microfluidic” is definite.

Applicants additionally note their general disagreement with the decision expressed in the Office Action not to afford patentable weight to the recitation of “microfluidic” channels. The asserted basis for that decision is that “the term ‘microfluidic’ is see[n] as having an indefinite size” (Office Action, p. 3), but attention is drawn to p. 12, ll. 2 – 9 which defines the scale. The alternative assertion in the Office Action that it would have been obvious to make the Pan device small enough to come within the scope of that scale is made on the basis that “smallness is a design objective of the overall device” (Office Action, p. 3). Without addressing the accuracy of this statement, it is noted that there is no disclosure in Pan of how to fabricate its devices at the relevant scale: the fabrication of microfluidic structures requires specialized processes like those described in detail in the Application and the disclosure of Pan would not enable one of skill in the art to fabricate the claimed structures. *See generally* MPEP 2121 and 2121.01 regarding the need for cited prior art to include an enabling disclosure.

In view of the indicated allowability of Claims 4 and 11, those claims have been rewritten in independent form, including all limitations of the base claim from which they depend. Claims 54 – 58 have been added as claims dependent from now-independent Claim 4 and recite limitations that generally correspond to limitations recited in Claims 6 – 10. Claims 59 – 62 have also been added as claims dependent from Claim 12 and recite limitations that generally correspond to limitations recited in Claims 7 – 10. These new claims are believed to be in condition for allowance by virtue of their dependence from Claims 4 and 11, which have been identified as allowable.

Claim 6 has been amended to ensure proper antecedent consistency with Claim 1.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,



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